A-1 URBAN WATER CONSERVATION GRANT APPLICATION
COVER SHEET

1. Applicant (Organization or affiliation): East Bay Municipal Utility District
2. Project Title: Regional Resource-Efficient Clothes Washer Rebate Program
3. Person authorized to sign and submit proposal:

Name, Title	Dennis M. Diemer, General Manager
Mailing address	P.O. Box 24055, Oakland, CA 94623
Telephone	510.287-0100
Fax	510.287-0188
E-mail	dennisd@ebmud.com, ruth@ebmud.com

4. Contact person (if different):

Name, Title	Michael Hazinski, Water Conservation Supervisor
Mailing address	P.O. Box 24055, MS 48 Oakland, CA 94623
Telephone	510.287-1802
Fax	510.287-1883
E-mail	mhazinsk@ebmud.com

5. Funds requested (dollar amount): $4,380,750
6. Applicant funds pledged (local cost share) (dollar amount): $5,697,450
7. Total project costs to DWR and Participating Agencies (dollar amount): $10,078,200

8. Estimated net water savings (acre-feet/year): 1,098
   Estimated total amount of water to be saved (acre-feet) over 14 years (project life): 15,378
   Benefit/cost ratio of project for applicant: 2.1
   Estimated average $/acre-feet of water to be saved: $655/AF

9. Project life (month/year to month/year): 1/2004 – 1/2007
10. State Assembly District where the project is to be conducted: 1, 6, 7, 11, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 27, 28

11. State Senate District where the project is to be conducted: 2,3,7,8,9,10,11,13,15

12. Congressional District(s) where the project is to be conducted: 1,6,7,9,10,11,12,13,14, 15,16,17

13. County where the project is to be conducted: Alameda, Contra Costa, San Mateo, Santa Clara, Sonoma, Yolo

14. Do the actions in this application involve physical changes in land use, or potential future changes in land use?
   (a) Yes
   (if yes, complete the land use check list at http://www.calfed.water.ca.gov/adobe_pdf/Questionnaires_EC_Permits_LandUse.pdf and submit it with the proposal)
   (b) No — No

A-2 APPLICATION SIGNATURE PAGE

By signing below, the official declares the following:

The truthfulness of all representations in the application;

The individual signing the form is authorized to submit the application on behalf of the applicant;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the application on behalf of the applicant; and

The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

Dennis M. Diemer, General Manager

_____ _____

Signature Date

Approved as to Form and Procedure:

By:_____ Date:_____

for the Office of the General Counsel

A-3 APPLICATION CHECKLIST

Complete this checklist to confirm all sections of this application package have been completed.

Part A: Project Description, Organizational, Financial and Legal Information
__X__A-1 Urban Water Conservation Grant Application Cover Sheet
__X__A-2 Application Signature Page
__X__A-3 Application Checklist
__X__A-4 Description of Project
__X__A-5 Maps
__X__A-6 Statement of work, schedule
__X__A-7 Monitoring and evaluation
__X__A-8 Qualification of applicant and cooperators
__X__A-9 Innovation
__X__A-10 Agency authority
__NA__A-11 Operation and maintenance (O&M)

Part B: Engineering and Hydrologic Feasibility (construction projects only)
__X__B-1 Certification statement
__X__B-2 Project reports and previous studies
__NA__B-3 Preliminary project plans and specifications
__X__B-4 Construction inspection plan

Part C: Plan for Environmental Documentation and Permitting
__X__C-1 CEQA/NEPA
__NA__C-2 Permits, easements, licenses, acquisitions, and certifications
__NA__C-3 Local land use plans
__NA__C-4 Applicable legal requirements

Part D: Need for Project and Community Involvement
__X__D-1 Need for project
__X__D-2 Outreach, community involvement, support, opposition

Part E: Water Use Efficiency Improvements and Other Benefits
__X__E-1 Water use efficiency improvements
__X__E-2 Other project benefits

Part F: Economic Justification, Benefits to Costs Analysis
__X__F-1 Net water savings
__X__F-2 Project budget and budget justification
__X__F-3 Economic efficiency

Appendix A: Benefit-Cost Analysis Tables
__X__ Benefit-Cost Accounting Tables for Each Participating Agency
Appendix B: Summary Report – 2002 Regional Program Participation Levels
Appendix C: Administrative Service Provider, EGIA, Contracted Scope of Work
Appendix D: Resumes – Project Managers
Appendix E: Letters of Commitment/Support
Appendix F: EBMUD – Authorizing Agency Resolution
Appendix G: Examples of Program Outreach Materials
Appendix H: Background Information on Data Assumptions
Appendix I: Economic Uncertainty Analysis

A-4 DESCRIPTION OF PROJECT

The project consists of providing a regional financial incentive program for the installation of water and energy efficient clothes washing machines in the customer service areas of the following participating agencies (Agencies):

- Alameda County Water District (ACWD)
- Bay Area Water Users Association (BAWUA)
- City of Davis (Davis)
- Contra Costa Water District (CCWD)
- East Bay Municipal Utility District (EBMUD)
- Santa Clara Valley Water District (SCVWD)
- Sonoma County Water Agency (SCWA)
- Zone 7 Water Agency (Zone 7)

The financial incentives are consumer rebates for the purchase of high-efficiency clothes washers offered throughout the greater San Francisco Bay Area. Over 1.8 million homes, more than 15 percent of homes within California, are within the service area of the participating agencies, which gives this program significant opportunities for increasing the market share of efficient models both regionally and throughout California. The incentives exceed the guidelines of the Statewide *Memorandum of Understanding Regarding Water Conservation in California* (MOU) by establishing a regional rebate offer independent of energy service provider clothes washer incentives. The Agencies will coordinate their rebate offer to the extent possible with the California Public Utility Commission (CPUC) and/or the region's energy service provider, Pacific Gas and Electric Company (PG&E), clothes washer programs.

The eight proposing Agencies currently implement a successful coordinated rebate program and six are supported by a matching CALFED grant for a program that will end in June 30, 2003. The Electric & Gas Industries Association (EGIA), a non-profit trade association representing the appliance industry has been responsible for developing/implementing/administering energy and water conservation programs for decades. EGIA operates the current program under contract with the participating utilities and proposes to provide services for this program and to facilitate coordination with PG&E/CPUC programs.

The Agencies propose a total $150 per clothes washer rebate offer comprised of $75 Agency funding and $75 matching Urban Water Conservation Program Grant funds. Past experience indicates that this amount substantially increases program participation because it effectively reduces the cost differential between standard and high-efficiency clothes washers to a level that influences cost sensitive and harder to reach consumers. Agencies would also fund administrative costs for rebate processing, monitoring, and evaluation and a variety of outreach activities.

The overall objective of this project is to increase consumer acceptance and market share of high-efficiency clothes washers throughout the region. The grant would fund capital outlay expenditures immediately and be directly tied to the project purpose of improving water use efficiency for residential clothes washing. A three-year program resulting in the purchase and installation of over 58,400 clothes washers would yield an estimated 15,378

acre-feet of water savings over the 14-year project life. **A benefit/cost ratio for the total project of 2.1** results from benefits compared to the avoided costs for energy, water, and wastewater and through Agency cost sharing that reduces administrative overhead. Longer-term, non-quantified benefits include larger market share and availability of clothes washers that exceed current and pending increases in product efficiency standards.

A-5 MAPS

Maps of the service areas of for the eight participating agencies are attached. A map of six of the agencies water supply sources is presented in Figure 1. An additional map for the service areas and sources of supply for Sonoma County Water Agency and Bay Area Water Users Association are presented in Figure 2 and Figure 3, respectively. As requested by DWR, an USGS map that illustrates the topographical features in the vicinity of the source water supplies and service areas is also provided in Figure 4.

A-6 STATEMENT OF WORK, SCHEDULE

Project, Scope, and Objectives. The project takes a regional approach to provide financial incentives towards the purchase and installation of high-efficiency washing machines. The regional effort covers water utility service areas, within six counties and a population base of more than three million consumers. An estimated 1.9 million loads of laundry are washed daily within this five county region.[1]

The project is located in northern California and includes seven agencies in the San Francisco Bay Area and one agency in the Central Valley. The costs of the project borne by the participating agencies primarily involve the Agencies capital match share and administrative costs to implement the three-year program. Approximately 58,410 rebates will be issued over the three-year program. The past history on levels of rebates given to customers within the agencies' service areas at the same proposed rate of this application is documented in Appendix B.

The scope of the project consists of four tasks:

1. continue the current successful regional clothes washer rebate program beyond July 2003 when the period of CALFED grant funding ends;
2. enhance program outreach and coordination with energy conservation rebate programs;
3. assess product market share to the extent practical at project conclusion using the Association of Home Appliance Manufacturers published statistics available in annual summary as shipments by county of destination of top-loading versus other household clothes washers. Available for download via their web site: www.aham.org; and
4. measure results and issue a final report.

The objectives of the project are to:

- realize greater water use efficiency for clothes washing by increasing market share and affordability of high-efficiency washing machines;
- increase the regional exposure of individual agency rebate offers; and
- promote public acceptance of high-efficiency clothes washing machines.

[1] ABAG Data Mart, Table 1, Number of Households, 2000. http://www.mtc.ca.gov/datamart/

The project outcome will be over 15,378 AF of water savings over the projected average 14-year life of the washing machines.

All grant funds will flow through EBMUD as the lead agency, streamlining invoicing to DWR. EGIA, a 70-year old non-profit trade association, has successfully operated water agency rebate programs since 1996 and is uniquely positioned to continue operating the program and coordinate with energy utility programs. EGIA currently operates the *Bay Area Water Utility Clothes Washer Rebate Program* and administers CALFED matching grant funding on behalf of the Agencies.

EGIA brings value to the proposed project in the following ways:

- ability to consolidate and report multi-agency program data to EBMUD for submission to DWR;
- EGIA is an appliance industry trade association and they have a direct link to manufacturers, distributors, and retailers and these three groups play a pivotal role with the water/energy customer;
- pre-established relationships with appliance retailers and buying groups enhances essential communications and outreach to industry; and
- current contracts with Agencies in this proposal include detailed operating procedures that ensure timely rebate processing, customer communications, and program tracking;
- EGIA would provide on-line processing of rebates to reduce project implementation costs.

The regional scale of the program creates cost-sharing opportunities for rebate processing services, marketing materials, and outreach, thereby minimizing administrative overhead. The higher rebate amount resulting from matching funds will increase consumer participation which further lowers the per rebate overhead. Individual agency rebate offers benefit from increased program exposure in retail stores as many water utility customers shop for appliances outside of their water agencies' service area and through the regional coverage of advertising media.

Schedule. A bar chart schedule is presented in Figure 5.

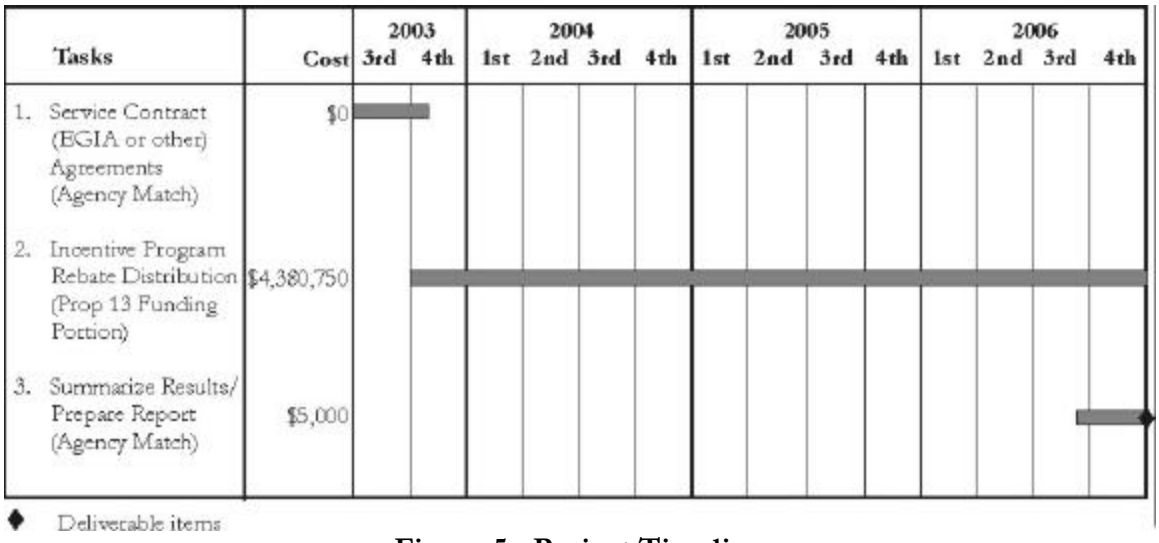

Figure 5. Project Timeline

The current program administrative service provider is EGIA. Continuation of the program as proposed may require a selection process, which would include EGIA. The selection process will be conducted prior to implementation. This allows the Administrative Service Provider to be selected and contracted in time to begin operating a program supported by this proposed Urban Water Conservation Program Grant. Table A-1 presents a quarterly expenditure projection of grant funds.

Table A-1. Quarterly Expenditure Projection of DWR Matching Funds*

Quarter	Months	Expenditure
Year 1		
4	October-December	175,000
1	January-March	250,000
2	April-June	375,000
3	July-September	398,000
Year 2		
4	October-December	376,375
1	January-March	405,000
2	April-June	405,000
3	July-September	405,000
Year 3		
4	October-December	376,375
1	January-March	405,000
2	April-June	405,000
3	July-September	405,000
Total		4,380,750

*Note: Project to begin 4th Quarter of 2003 with signing of DWR contract by October 1, 2003.

A-7 MONITORING AND EVALUATION

The contracted program Administrative Service Provider will receive and process incentive applications, document purchases, and obtain application approval from participating agencies. The weekly information provided to the Agencies by EGIA would be consistent with their individual existing or renewed contractual requirements. The scope of EGIA services provided under its agreement with EBMUD and a processing flow diagram for the current program with CALFED funding are included in Appendix C. The Agencies approve electronically transmitted rebate application records by verifying water service account information and program eligibility requirements.

Individual Agency application approval enhances program monitoring in the following ways:

- Agencies cross-check rebate application information with their customer information system data to validate water service account status, confirm installation addresses, and identify prior rebate activity;
- Agency data verification enhances the Administrative Service Provider's program data quality and ensures enforcement of program eligibility requirements;
- Weekly data submittals from the Administrative Service Provider to Agencies are used to monitor program activity levels and the timelines of contract deliverables; and
- Agencies utilize program data to conduct telephone follow-up and/or physical site inspections to resolve incomplete applications or to contact and verify clothes washer installations of randomly sampled program applicants.

Program monitoring will include a process to separately track and account for agency and grant fund transfers from source funding to consumer rebate payments. Current and future Agency contracts with the Administrative Service Provider require:

- monthly accounting and reporting of Agency and grant funding used to issue rebate payments;
- management of funds through a dedicated bank account that prevents commingling of rebate funds with service provider funds;
- documented bank-to-bank account fund transfers or direct deposits of rebate funds to the dedicated account; and
- program auditing and data retention provisions that open service provider records to full examination.

The program Administrative Service Provider will continue to automate its processing functions. EBMUD is currently developing an automated database system that will streamline and improve approval and program tracking while reducing administrative costs. Quarterly invoices with summary reports will be issued by EBMUD to DWR for the three-year duration of the project.

At the completion of the project, EBMUD, on behalf of the Agencies will submit an overall project completion report that includes:

- description of customer's participation feedback from satisfaction survey;
- number of rebates provided;
- estimated amount of water savings;
- estimated amount of energy savings;
- estimated avoided cost to agencies; and
- estimated avoided costs to water customers.

Key to evaluating longer-term program impacts will be an assessment of product market share to the extent practical at project conclusion. The Association of Home Appliance Manufacturers publishes annual statistics summarizing shipments of top-loading versus other household clothes washers and is available for download via their web site: www.aham.org. EGIA, through its established appliance and energy industry contacts, may also be a source of pertinent data for market share and program impact analysis.

EBMUD has undertaken significant research projects that will enhance the ability to evaluate actual program impacts:

- The comprehensive 1995 *Water Conservation Baseline Study* identified the market saturation of water conserving hardware and appliances in the EBMUD service area through on-site survey of a statistically significant random sample of residential customers.
- A second comprehensive market saturation study, the *Water Conservation Market Penetration Study*, completed in March 2001, identified a 12 percent saturation level of high-efficiency clothes washers in EBMUD-served homes. EBMUD's Water Conservation Master Plan establishes a basis for conducting periodic future studies that will effectively track market saturation levels and rates.
- SCVWD and ACWD have both undertaken similar studies.
- An EBMUD Residential Indoor End Use Study, conducted as a follow-up to the *AWWA North American End Use Study*, identified the actual water savings from conservation retrofits including high-efficiency clothes washers in single-family residences. An analysis of extensive pre- and post-retrofit metered consumption data, and supplemental household surveys, to be released in December 2002, will significantly add to the current documentation of water savings from high-efficiency clothes washer installations.

A-8 QUALIFICATIONS OF THE APPLICANT AND COOPERATORS

The qualifications of the project manager, cooperators, and partners to be involved in the Regional Resource-Efficient Clothes Washer Rebate Program are discussed in this section. A description of the EBMUD as the Authorized Authority is also included in Section A-10.

The EBMUD and Participating Agencies Project Managers

The high-efficiency washing machine rebate program was initiated to encourage consumer purchase of energy-efficient and water-saving products and support the effort to encourage water conservation in Northern California. EBMUD will serve as the Program Authorizing Agency (see Section A-10). EBMUD is a water and wastewater utility based in Oakland, California, which promotes the progress of water efficiency.

Michael Hazinski of EBMUD will be serving as the single point of contact for DWR as the primary Lead Agency Administrator overseeing grant funding for the entire regional program and contracted grant fund management services performed by the Administrative Service Provider. Additional project management responsibilities will be shared between the Administrative Service Provider and the Agencies. Table A-2 represents the project management team. A resume for each agency's Project Manager is attached in Appendix D.

EGIA brings substantial qualifications to this project arising from its 70-year history as a non-profit industry association during which it implemented numerous resource conservation programs and established relationships with the energy and appliance industries, and from its more recent successful operation of the *Bay Area Water Utility Clothes Washer Rebate Program.* Within the current regional program each of the water agencies Project Managers already works closely with EGIA.

As a contracted Administrative Service Provider, EGIA designs and implements consumer rebate programs of both water and energy efficient products such as air conditioners, clothes washers, and refrigerators. Additionally, EGIA administers training in the latest energy efficiency measures for HVAC, windows, insulation, and photovoltaic contractors. EGIA served as a program administrator for numerous California investor-owned and municipality-based utilities including:

- Pacific Gas and Electric Company
- Southern California Gas Company
- San Diego Gas & Electric Company
- Southern California Edison
- City of Palo Alto
- Silicon Valley Power
- Modesto Irrigation District
- Associated Volume Buyers (the world's largest appliance buying group)
- Department of Water Resources
- Town of Windsor
- Alameda Bureau of Electricity

In addition to the groups noted above, EGIA has consulted with the California Energy Commission, California Department of Consumer Affairs (Flex Your Power Group), and the California Power Authority in an effort to help identify ways to mitigate the Energy crisis in 2001. EGIA also advises government agencies on contractor and retailer concerns, public perception, and response to past and proposed measures.

Table A-2. Project Management Team

Agency	Contact	email	*Phone*	Fax	Position
ACWD	Vana Phibbs	Vana.phibbs@acwd.com	(510) 659-1970 x218	(510) 770-1793	Water Conservation Associate
Bay Area Water Users Association	Nicole Sandkulla	nsandkulla@bawua.org	(650) 349-3000	(650) 349-8395	Water Resources Analyst
CCWD	Ray Cardwell	Rcardwell@ccwater.com	(925) 688-8234	(925) 688-8122	Water

Agency	Contact	email	*Phone*	Fax	Position
					Conservation Specialist
CCWD	Chris Dundon	Cdundon@ccwater.com	(925) 688-8234	(925) 688-8136	Water Conservation Specialist
City of Davis	Jacques DeBra	Water@dcn.davis.ca.us	(530) 757-5679	(530) 758-4738	Senior Utility Resource Specialist
EGIA, or Other Service Provider	Tim Michel	Tmichel@egia.com	(916) 609-5300 x314	(916) 609-5356	Executive Director
EBMUD	Michael Hazinski	Mhazinsk@ebmud.com	(510) 287-1802	(510) 287-1883	Water Conservation Supervisor
SCVWD	Karen Morvay	kmorvay@valleywater.org	(408) 265-2607 x2707	(408) 267-3127	Water Conservation Specialist I
Sonoma County Water Agency	Ryan Grisso	rgrisso@scwa.ca.gov	(707) 547-1906	(707) 524-3782	Water Conservation Specialist
Zone 7	Andy Florendo	Aflorendo@zone7water.com	(925) 484-2600 x232	(925) 462-4953	Water Conservation Coordinator

External Cooperators

External cooperators such as appliance retailers, product manufacturers, water customers, and the regional energy service provider will be utilized for this project. Success of the current regional program, which depends upon coordination with the abovementioned external cooperators, attests to their willingness and ability to effectively coordinate and participate. External cooperators embrace and support the project primarily because the incentives enhance the benefits of promoting product acceptance. Letters of Support from additional organizations are provided in Appendix E.

Partnerships Developed to Implement Project

The existing regional partnership among individual water utilities, each with their own governing bodies and encompassing small and large, retail and wholesale water utilities, for the purpose of implementing a water use efficiency program is somewhat unique in the water industry and has gained Statewide and national attention. This partnership brings smaller agencies under an umbrella that would otherwise not be able to offer a rebate program cost-effectively. The proposed funding for this project will enhance and expand this partnership and better maintain a foundation for other regional water use efficiency initiatives.

Recently joining the Regional Program in 2001, the Sonoma County Water Agency and the Bay Area Water Users Association will continue to partner with Alameda County Water District, the City of Davis, Contra Costa Water District, East Bay Municipal Utility

District, Santa Clara Valley Water District, and the Zone 7 Water Agency, which have proposed to continue their partnership to offer rebates toward the consumer purchase of energy and water efficient clothes washers.

The Agency program will run concurrent with PG&E/CPUC programs when their rebates are available. Agencies will make efforts to work with investor-owned utilities and/or the CPUC to leverage opportunities to promote high-efficiency clothes washer technology.

The following partners and the total rebates awarded within their respective service areas are included in Table A-3.

Table A-3. Project Partners and Number of Awarded Rebates, Year 2002

Participant	Number of Awarded Rebates From 01/01/02 through 10/17/02
Alameda County Water District	1,242
Bay Area Water Users Association*	1,588
Contra Costa Water District	1,232
City of Davis	376
East Bay Municipal Utility District	4,504
Santa Clara Valley Water District	5,145
Sonoma County Water Agency**	536**
Zone 7	796
Total for Three Quarters 2002	**15,419**

*Joined current regional program in 2001.
**Sonoma County Water Agency numbers of rebates are for only 1 quarter of activity since SCWA reinitiated their program in July 2002 (previously had a program from 1998-2000).

High-efficiency washing machine rebate participation levels are projected to continue from the year 2002 baseline through the three-year project period.

The U.S. Environmental Protection Agency (EPA) and U.S. Department of Energy (DOE) developed and sponsor the ENERGYSTAR® name and logo, a product labeling system that is key to identifying and promoting eligible energy conservation products. As a result of extensive publicity and promotions, primarily by California energy utilities, ENERGYSTAR has very high name and brand recognition. EBMUD and other proposing Agencies are ENERGYSTAR partners authorized to use the name and logo within published guidelines. Agencies both leverage and promote ENERGYSTAR through their promotional materials and outreach activities.

The Consortium for Energy Efficiency (CEE) routinely publishes and lists efficiency ratings of clothes washers that include water use efficiency factors. Further, the CEE coordinates listings with ENERGYSTAR and attempts to achieve consistency with the labeling system. The combination of ENERGYSTAR labeling and CEE listings provides a basis to delineate and promote clothes washer models that maximize water and energy savings.

A-9 INNOVATION

A regional partnership among water agencies serving over 3 million customers in the greater San Francisco Bay Area has the opportunity to greatly impact the market share of

innovative water and energy efficient washing machines. According to the DOE Pacific Northwest National Laboratory, each household washes approximately one load of laundry per day. Therefore, an estimated 1.9 million loads of laundry are washed daily within this five county region.[2]

In summary, this program offers the benefit of innovation in seven principal ways:

- reduced administrative cost associated with online rebate processing;
- given the current clothes washer appliance stock is not saturated, accelerate and capture water savings in appliance turn over through customer replacement with efficient models;
- influence consumer purchasing habits by helping to equalize the cost difference between less and more efficient models, capturing with resource efficient models, greater market share and water savings over the 14-year life cycle of efficient washing machines;
- accelerate additional market transformation as more sales of resource efficient models generate lower costs to the average consumer for future purchases;
- increasing sales and market competition shall motivate manufacturers to develop technological improvements;
- demonstrate a successful and cost-effective collaborative regional approach among independent water agencies; and
- educate and inform a growing circle of retail salespersons and consumers to promote resource efficiency.

Online rebates processing - EGIA's online rebate processing system would provide the following benefits for Agencies and their customers:

- more cost-effective rebate processing, this means more dollars can be directed to consumers;
- allows for greater program flexibility for administrators;
- enables real-time reporting to Agencies;
- customers who do not have computer access can call in their rebate application via a staffed telephone line;
- reduces printing costs for paper application forms;
- results in quicker turnaround time for paying consumer rebates.

Appliance stock in existing homes - Currently the nationwide market saturation for water and energy efficient clothes washers is estimated at only 6 percent. In other words, nationally only 6 machines are high efficiency for every 100 clothes washers that exist in households today (American Home Appliance Manufacturers Association, 2002).[3] Twelve percent market saturation within the EBMUD service area suggests substantial impact has already been achieved[4]. Each incentive rebate that encourages a household decision-maker to purchase an efficient clothes washer over conventional technology is saving, on average, of 24 gallons of water per load. There are significant "lost" water savings

[2] ABAG Data Mart, Table 1, Number of Households, 2000. http://www.mtc.ca.gov/datamart/
[3] AHAM Saturation and First Length of Ownership Study, May 2001. http://www.aham.org/tradehome/home.cfm
[4] Water Conservation Market Penetration Study, East Bay Municipal Utility District, March 2001.

opportunities once the customer purchases an inefficient washing machine, on average 91,000 gallons per machine per household per year is not available.

Equalize the cost difference – A fundamental means to replace old clothes washers with water and energy efficient machines is to bridge the upfront per unit cost differential that ranges between $300-2,000. The new efficient machines are significantly more expensive, on average costing $500 more than traditional machine technologies.[5]

Market transformation - The estimated market share of new clothes washer purchases is estimated at about 16 percent according to a preliminary analysis of ENERGYSTAR sales data collected by D&R International.[6] Sales data on ENERGYSTAR labeled clothes washers collected since 1998 indicates that national average market share was initially only 6 percent. Although sales vary from year to year, which make comparisons difficult, it is apparent that the market share is increasing with time. A goal of this Regional Clothes Washer Incentive Program is to increase the rapid market transformation to ENERGYSTAR models and more resource efficient models that go beyond the minimum ENERGYSTAR standards.

Regional program approach is revolutionary in this level of collaboration among completely independent water agencies. These established partnerships foster a streamlined approach to providing a broad canvassing of retail market outlets resulting in enhanced training of retail salespersons and dissemination of consistent program information. Through this program, customers will make the water wise decision to purchase the water and energy efficient clothes washing machines based on the $150 rebate level and ease of having one simplified application from available to send to a single point of contact at the Administrative Service Provider (e.g., EGIA).

Educate retail salespersons and consumer through consolidated information – The level of participation is driven by: (1) access to program information; (2) retail salesperson understanding of the program and ability to convey primary selling points of water efficiency; and (3) the customer's perception of value and amount of time to receive the rebate. As described in Section D-2.2 below, these issues are addressed in the regional program approach with a consistent message across water agency service areas to retail outlets and customers.

A-10 AGENCY AUTHORITY

Authority to Submit an Application and Enter Into a Funding Contract with the State

The Board of Directors of the East Bay Municipal Utility District has authorized the General Manager to submit application materials to request grant funds for qualifying District programs and facilities and to execute application materials. A certified copy of Resolution No. 33237-01 is attached in Appendix F as evidence of such authorization.

[5] American Consortium for Energy Efficient Economy, ACEEE, Consumer to Guide to Home Energy Savings, 7th Edition, 2001.

[6] Consortium for Energy Efficiency (CEE), Residential Clothes Washer Program, 2002 http://www.cee1.org/resrc/updates/02-08rwsh/02-08rwsh.html

With respect to the authority to enter into a funding contract with the State, the District's authority to enter into contracts is set forth in Public Utilities Code Sections 12721 and 12802. Section 12721 generally authorizes the District to make contracts of any nature whatsoever. More specifically, Section 12802 expressly authorizes the District to enter into contracts with the State for, among other things, the financing of enterprises in which the District is authorized to engage:

> "A district may accept, without limitation by any other provisions of this division requiring approval of indebtedness, contributions of money, rights of way, labor, materials, and any other property for the construction, maintenance, and operation of any enterprise in which the district is authorized to engage, and may enter into any contracts and cooperate with and accept cooperation from the State, or any department, instrumentality, or agency thereof, or any public agency of the State in the construction, maintenance, and operation of, and in financing the construction, maintenance, and operation of, any such enterprise". *(emphasis added)*

Statutory Authority under which the District was Formed and Authorized to Operate

The District was formed under and authorized to operate pursuant to the Municipal Utility District Act of 1921 ("Act"). (Public Utilities Code Section 11501 et seq.)

No Election Required

Section 12802 of the Act expressly authorizes the District to enter into a contract with the State for the financing of any District enterprise without regard to any other provision of the Act requiring approval of indebtedness. The District knows of no requirement that an election be conducted before entering into a funding contract with the State with respect to the proposed project.

Funding Agreement not Subject to Review by Other Government Agencies

The District knows of no requirement that other government agencies review and/or approve a funding agreement between the District and the State for the proposed project.

No Pending Litigation Impacts Financial Condition of the District or Operation of Its Facilities

The Office of General Counsel knows of no pending litigation that may impact the financial condition of the District, the operation of its water facilities, or its ability to complete the proposed project.

A-11 OPERATIONS AND MAINTENANCE

Not applicable. As a condition of receiving a rebate, applicants assume responsibility for ongoing clothes washer operation and maintenance by indemnifying sponsoring agencies against any and all product defects that may arise. Manufacturer warranties further protect consumers from incurring replacement or repair costs.

PART B—ENGINEERING AND HYDROLOGIC FEASIBILITY

B-1 CERTIFICATION STATEMENT

I, Lisa Maddaus, a California registered civil engineer, have reviewed the information presented in support of this application. Based on this information, and any other knowledge I have regarding the proposed project, I find that it can be designed and operated to accomplish the purpose for which it is planned. The information I have reviewed to document this statement included:

- Past CALFED regional program performance as provided by EGIA.
- ENERGYSTAR® product information, availability and market saturation data.
- Review of avoided cost and other data as provided by Agencies.
- Statement of Work, Schedule provided within this application.
- Review of budget provided within this application.
- Review of economic analysis provided within this application.

B-2 PROJECT REPORTS AND PREVIOUS STUDIES

The current regional rebate program as funded by CALFED that will expire in Summer 2003 has been highly successful. As evidenced in the 2002 Summary Report (Appendix B), the six participating agencies currently in the regional program administered by EGIA distributed 13,295 rebates throughout the three quarters spanning January 1, 2002 to October 17, 2002. Additionally, BAWUA distributed 1,588 rebates in this same timeframe and with reinitiating their program, Sonoma County Water Agency distributed 536 rebates between July and October 2002. Having recently joined the regional program, these two agencies did not receive any CALFED funding assistance. This project proposal includes participating agencies within the current regional program.

B-3 PRELIMINARY PROJECT PLANS AND SPECIFICATIONS

Not applicable.

B-4 CONSTRUCTION INSPECTION PLAN

The applicants must submit purchase receipts from valid retail establishments, which are verified by the Administrative Service Provider prior to submission to the Participating Agencies for payment approvals. There is no required direct inspection of the installation of the clothes washing machines by water agency personnel. However, Agencies reserve the right to periodically conduct installation verification and physically inspect installations to resolve incomplete application or of randomly sampled program participants.

PART C—PLAN FOR COMPLETION OF ENVIRONMENTAL DOCUMENTATION AND PERMITTING REQUIREMENTS

C-1 CALIFORNIA ENVIRONMENTAL QUALITY ACT AND NATIONAL ENVIRONMENTAL POLICY ACT

CEQA/NEPA documentation is not applicable for this project, notice of exemption will be completed prior to contract execution between DWR and EBMUD.

C-2 PERMITS, EASEMENTS, LICENSES, ACQUISITIONS, AND CERTIFICATIONS

Not applicable.

C-3 LOCAL LAND USE PLANS

Not applicable. No proposed land use changes.

C-4 APPLICABLE LEGAL REQUIREMENTS

Not applicable.

PART D- NEED FOR PROJECT AND COMMUNITY INVOLVEMENT

D-1 NEED FOR THE PROJECT

The purpose of this project is to significantly increase water use efficiency by offering financial incentives to consumers who purchase energy and water efficient clothes washers. The high-efficiency machines use 60 percent less energy per load and 40 percent less water per load than traditional machines.

The project need is based principally on the following:

- Efficient use of California's limited water supplies is a critical local, regional, and statewide water issue.
- Net water savings will directly relieve pressure on Bay-Delta exports.
- Over 93 percent of homes in the United States have clothes washers and only 6 percent are high-efficiency Energy Star rated models.7
- Over 1.8 million homes, more than 15 percent of homes within California, are within the service area of the participating agencies, which gives this program significant opportunities for increasing the market share of efficient models both regionally and throughout California.
- It is estimated by market share data that less than 10 in 100 sales of clothes washing machines are high-efficiency, which locks in water waste of an estimated 6,450 gallons annually per machine for 14 years of each machine's life.
- The average cost difference between low efficiency and high efficiency Energy Star models ranges from $300 - $2,000 with an estimated average of $500 per high-efficiency machine.
- Other regional EnergyStar programs suggests an over $150 rebate level is one cause of success. For example, in the Northwest states have seen increased market share up to 16 percent in early 2002.8

This project has the potential to positively impact the Bay-Delta systems by reducing the overall reliance on Bay-Delta water exports. The Agencies' conservation efforts are important as part of a long-term, comprehensive effort to reduce pressure on the Bay-Delta system to meet regional and statewide water needs. One of the fundamental objectives of the CALFED Bay-Delta program is to reduce the imbalance between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system. Water use efficiency projects are one of the cornerstone strategies that the CALFED Bay-Delta program is deploying to achieve this objective. Larger incentives for the purchase of high-efficiency washing machines will reduce demand for a significant urban end use of Bay-Delta water supplies. It is anticipated that the 58,410 rebates issued under this project will result in water savings of approximately 1,098 acre-feet per year and a total of 15,378 ac-ft or more than 5 billion gallons by 2018.

By reducing the amount of water use by customers in the Agencies' water supply areas, other beneficial water uses could be realized, such as providing flow to improve aquatic

[7] AHAM Saturation and First Length of Ownership Study, May 2001. http://www.aham.org/tradehome/home.cfm

[8] PECI, Resource Efficient Washer Program, 2002. http://www.peci.org/res/washers.html

ecosystems and the habitat restoration of many Federally listed species (Saltwater Harvest Mouse, California Clapper Rail, Delta Smelt, Splittail, Steelhead, Chinook salmon, fresh water shrimp, Coho salmon, and Steelhead) along the Mokelumne River, Lagunitas Creek, Walker Creek, and Alameda Creek watersheds. Increasing the amount of water available will enhance groundwater recharge efforts, thus effectively reducing saltwater infiltration into the groundwater basin.

This project involves the implementation of Urban Water Conservation Best Management Practice (BMP) Number 6 *High-Efficiency Washing Machine Rebate Programs*, as defined by the California Urban Water Conservation Council (CUWCC). This project exceeds the requirements of BMP Number 6 by implementing a rebate offer regardless of the existence of an energy service provider incentive. The unpredictable water supply and ever increasing demand on California's complex water resources have resulted in a coordinated effort by the DWR, water utilities, environmental organizations, and other interested groups to develop a list of urban BMPs for conserving water. This consensus-building effort resulted in the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU), which formalizes an agreement to implement these BMPs and makes a cooperative effort to reduce the consumption of California's water resources.

High-efficiency washing machine rebate programs began in the Bay Area in 1996, with participation by the City of Davis, EBMUD, ACWD, SCVWD, and MMWD, with EGIA administering the program. This rebate program has grown to be extremely popular throughout the Bay Area, particularly with the addition of SCWA and BAWUA. At an estimated annual savings of 6,450 gallons per washing machine, the retrofitted machines represent a yearly water savings of more than 1,098 acre-feet over the life of the machines. This is a very cost-effective program relative to savings in production and operating costs as shown in Section F of this application.

This project is compatible with local water management plans and the Agencies' ongoing efforts to achieve greater water use efficiency through recommendations for reducing long-term residential water demands. Participation in the rebate program is consistent with many water conservation plans such ACWD's Integrated Resources Planning Study; CCWD'S Urban Water Management Plan, and its Future Water Supply Implementation Plan; SCVWD's Integrated Water Resource Plan; EBMUD's 1994 Water Conservation Master Plan and Water Conservation Master Plan FY02 Annual Report; the City of Davis' 2001 Urban Water Management Plan; SCWA Urban Water Management Plan; BAWUA's SFPUC/BAWA Water Supply ; and the Zone 7 Water Agency's Urban Water Management Plan.

D-2 OUTREACH, COMMUNITY INVOLVEMENT, SUPPORT, OPPOSITION

D-2.1 Outreach Efforts

The outreach efforts that will be made by the Agencies and Administrative Service Provider during the clothes washer rebate program include a plan for disseminating information regarding the rebate offer and the inherent benefits of increase resource efficiency for clothes washing, training of appliance dealers, and coordination with manufacturers and appliance buying groups to ensure increased product availability.

An effective public outreach effort is essential to the project's success. Contact will be made through various means with thousands of customers, including disadvantaged community members, to promote and reinforce water use efficiency by providing a financial incentive to purchase a high-efficiency clothes washing machine. The partnership developed between the various water agencies ensures that a large and economically diverse customer base will be reached. Outreach efforts are designed to influence consumer choice as well as manufacturer, distributor, and retailer decisions regarding product development, availability, and promotion.

D-2.2 Information Dissemination Plan

The Agencies' high-efficiency washing machine rebate program has been an ongoing program and has proven to be a success. An example "point of sale" brochure given to customers, a static cling sticker applied to retail store floor models, and a rebate application form are provided in Appendix G. Therefore, the Agencies will continue with their current information dissemination plans and between all Agency efforts may or may not encompass the following outreach efforts:

Educational materials – Fact sheets about the high-efficiency washing machine rebate program – written in easy to understand language – is critical to a successful public education campaign. Customers will receive direct information through agency bill inserts, door hangers, and information kits.

Advertising - Within the current partnership, the larger agencies have undertaken print and radio advertising campaigns that benefit the regional effort as ad impressions extend to a regional audience. SCVWD is currently placing print ads to accelerate its customer participation and EBMUD sponsored radio promotions on Oakland Raider football game broadcasts. Agencies will explore cost-sharing opportunities for regional media promotions, especially those media that would target difficult to reach or disadvantaged consumers who would otherwise not take advantage of clothes washer rebates.

Media relations – This may include public service announcements and editorial commentary, both in print and on electronic media, in order to effectively reach a large, diverse agency customer base. The rebate program will be highlighted as well as the Agencies' other conservation accomplishments and services.

Web sites – The Agencies' and the Administrative Service Provider's respective web sites will keep the community updated on the rebate program. A customer will be able to find information on where to purchase qualifying washing machines, how to apply for the rebate, energy and water savings statistics, and contact phone numbers to answer customer questions. Agencies anticipate offering consumers on-line application submittal and rebate application status tracking.

Community event participation – Participation in community events such as fairs and festivals are highly visible opportunities to reach local consumers. A simple exhibit with display boards, water-related props, promotional items, information pamphlets, and an interactive component is a planned attractive educational tool for the Agencies.

Customer Information by Telephone – The public will have access to Agencies' and the Administrative Service Provider's direct phone lines to provide immediate response to customer questions. An Agency staff member knowledgeable about the rebate program will be available to answer customer concerns.

Point of sale – Participating appliance dealers will have rebate applications and information pamphlets available on site with the qualifying washing machines clearly marked. Point of sale publicity will inform Agencies' customers of program availability when purchasing a product outside of their service area. Consumers may choose to participate in the program by purchasing a qualifying machine and completing the necessary rebate form in one convenient step.

Program evaluation – The regional approach to this project will allow standardization of data collection and methods of analysis. It is important to evaluate the public relations efforts throughout the project. This will ensure the information dissemination program plan is on track and meeting the plan goals and objectives. An informal focus group session will be held at the end of the first six months to determine which tactics have been effective and which areas may need to be revised to be more effective. Periodically, customers will be contacted to determine their level of satisfaction. The concerns of any unsatisfied customers will be addressed and resolved as quickly as possible by the Agencies and the Administrative Service Provider.

D-2.3 Training of Participating Appliance Dealers

Appliance dealers participating in the rebate program will continue to be educated in energy and water conservation issues so they may answer questions and make recommendations to customers. Past training activities have included:

- Preparation and dissemination of written program descriptions, eligibility requirements, and contact information to retail sales managers. A sample of program information written for retailers is included in Appendix G.
- Routine retail store visits conducted by Agency staff to provide program materials and program status updates to retail sales staff. These visits are key in maintaining the external cooperation of retailers and to ensure that point of purchase materials are kept visible and available to consumers. A written retail store visit protocol developed by EGIA is included in Appendix G.
- Ongoing telephone contact between EGIA, Agency staff, and retailer sales staff as needed to address questions and supply retailers with program information and materials.

These activities will continue to be provided and Agencies will seek to improve coordination by pooling resources for retail store visits to better deliver consistent outreach and service to the region's clothes washer retailers and their appliance customers. Ongoing training is essential to retain the knowledge of the program to allow for retail salesperson retail salesperson turn over and on-going customer participation in the program.

PART E—WATER USE EFFICIENCY IMPROVEMENTS AND OTHER BENEFITS

E-1 WATER USE EFFICIENCY IMPROVEMENTS

The direct improvement in water use efficiency is the savings of over 20 gallons per each load washed in a high-efficiency washer. The total project water savings are 15,378 acre-ft for 58,410 rebated units, assuming 6,450 annually gallons per machine and a 14-year useful life. A summary description is provided below with additional background documentation is provided in Appendix H.

The quantified water savings from this program are based on an average of 6,450 gallons per clothes washer. This water savings estimate is derived from the following assumptions:

- A baseline Water Factor (WF) of 14.03 gallons/cu. ft./cycle based on the US Department of Energy Life Cycle Cost Analysis performed in March 2000,
- An average WF of 7.9 for the Energy Star program after the 9.5 WF Standard comes online in 2007, and
- 10 percent freeridership rate from the program participants.

The ENERGYSTAR models that are eligible under this rebate program have a range in Water Factor (WF) from 12.1 to 4.28 with an average of 8.0 gallons/cu. ft./cycle. This WF is significantly lower than the Title 20 California Appliance Efficiency Standard of 9.5 WF scheduled to take effect in 2007 with only 16 of the 103 models being removed from the eligibility criteria.

E-2 OTHER PROJECT BENEFITS

In summary, numerous other quantified and non-quantifiable benefits also attributable to the water savings from this project principally include:

1. Water quality benefits for waters with Federally listed endangered species.
2. Improved Bay Delta ecosystem through the potential reduction in water diversions by the Agencies from the Bay Delta. Increased water use efficiency will have a direct potential direct benefit to more "environmental water" for the delta.
3. Improved local watershed ecosystem by decreased diversions from local creeks and reservoirs thereby benefiting in-stream uses.
4. Sustained economic health of the critical Silicon Valley business community. Water supply reliability is a cornerstone of continued growth and vitality of this strong economic engine of the State of California. Increased water conservation is one of the four primary components of the Agencies' water management plans.
5. Customer attitudes towards water conservation are revealed, enabling the Agencies to more effectively reach customers on this subject.
6. Building the water efficiency ethic through educating the appliance retailers and the general public.
7. Energy savings to both water/wastewater agencies and customers.
8. Regional collaboration among independent water agencies for streamlined program delivery and a model for joint implementation of other regional water conservation programs.

9. Relief for Agency area infrastructure. Agencies can avoid upsizing infrastructure to meet future peak demands through demand management. Water use efficiency decreases wastewater production.

Further description of some of these benefits is provided below along with a summary in Table E-1.

Water Quality – Potential and anticipated water quality benefits derived from reducing the amount of water used by customers in the Agencies' water supply areas include providing flow to improve aquatic ecosystems and the habitat restoration of many Federally listed species: Saltwater Harvest Mouse, California Clapper Rail, Delta Smelt, Splittail, Steelhead, Chinook salmon, fresh water shrimp, Coho salmon, and Steelhead along the Mokelumne River, Lagunitas Creek, Walker Creek, and Alameda Creek watersheds. Increasing the amount of water available will enhance groundwater recharge efforts, thus effectively reducing saltwater infiltration into the groundwater basin.

Water Supply Reliability – Agencies each have water conservation plans that call for future water shortages based on current projected demands. Water supply reliability is fundamental to both the regional economy and the state's economic health. The water use efficiency improvements necessary in this region are directly connected to the water savings attained through this program. Plans from the Agencies that describe the current and future situation for each respective agency's water source(s) and reliability of supply is described in the following reports: ACWD's Integrated Resources Planning Study; CCWD'S Urban Water Management Plan, and its Future Water Supply Implementation Plan; SCVWD's Integrated Water Resource Plan; EBMUD's 1993 Water Supply Management Program and its Urban Water Management Plan; the City of Davis' 2001 Urban Water Management Plan; SCWA Urban Water Management Plan; SFPUC/BAWUA Water Supply Master Plan, Capital Improvement Program and Long-Range Financial Plan; and the Zone 7 Water Agency's Urban Water Management Plan.

Consumer Education – Enhances opportunities for participation in other rebate programs and home water surveys through positive experiences with this large-scale regional program. Continual training of the retail salespersons is essential and extends beyond the clothes washer program to all Energy Star products, which further encourages informed decisions by the general public. The streamlined one step application process on the part of the customer with consistent information across such a broad regional area assists with higher likelihood of knowledge dissemination to the customers.

Energy Savings – Customer total energy savings are estimated at 319,310 MW over the life of the rebated machines for a total customer cost savings of nearly $37 million. The energy savings directly accruing to the water/wastewater utilities were not quantified for this project.

Regional Collaboration Among Independent Agencies – Legal agreements between the Agencies to partner in cost sharing in the implementation of their programs did not exist for water efficiency or any other programs prior to this program. This was a novel approach that has and will continue to allow these agencies to expand implementation of their water use efficiency programs.

Table E-1. Summary of the Non-quantified Costs and Benefits

Agency	Non-quantified costs	Non-quantified benefits
All Water/Wastewater Agencies	None	• Water quality improvements • Increased water supply reliability • Energy & chemical cost savings • Additional customer participation for other WUE programs through indirect marketing water efficiency programs • Greater attention by customers of the need for water conserving behaviors • Cost-sharing & streamlined WUE program implementation
DWR	None	• Water savings • Energy savings
CALFED	None	• More efficient water use. • More water for Bay-Delta.

PART F – ECONOMIC JUSTIFICATION: BENEFITS TO COSTS

F-1 NET WATER SAVINGS

The annual net water savings for the program is on average 1,098 ac-ft for fourteen years for a total project savings of 15,378 ac-ft. The wastewater agencies that receive the third party benefit of water savings from efficient clothes washers discharge into the saline sink of San Francisco Bay and San Pablo Bay. The net water savings have been reduced 5% by volume to conservatively account for wastewater discharge system losses potentially attributable to downstream reuse, such as the very limited use of recycled water by a few sanitation districts that serve the water agencies' customers.

As presented in Section F-3.1, Economic Uncertainty Analysis, that a 40% reduction of annual water savings from 6,450 gallons to 3, 870 gallons per washer results in an overall project B/C ratio of 1.0. In order words, net water savings could be reduced by 40% with all other variables held constant and this project would still remain cost effective. Additional background information for the project net water savings is provided following Section F with tables that breakdown the estimated benefits and costs.

F-2 PROJECT BUDGET AND BUDGET JUSTIFICATION

The Summary Benefit Cost Analysis is provided in Table F-3. Attached in Appendix A, are additional benefit cost analysis by agency with background information on the project budget between the Agencies' provided services and the services of the Administrative Service Provider (EGIA or otherwise described in previous sections) that will be conducting the project, and third parties. Each Agency has an individual set of summary tables that provides specific detail on the avoided costs and justification for each Agency budget.

Budget Summary and Breakdown

The total cost of the project is $10,078,200. The Agencies are requesting $4,380,750 from DWR Urban WUE Program Proposition 13 funding grants. The remaining $5,697,450 will be provided Agency budgets. The pro-rata cost share between DWR and the Agencies is approximately 40/60, respectively, for the proposed project.

To maximize effectiveness of the grant award and Agency spending on this project, and maximize water and energy conservation savings, Agencies would retain the option to vary their portion of the per unit rebate amount and either shift spending to outreach activities or increase the total number of rebates targeted. For example, if PG&E re-enters the clothes washer market with a substantial rebate offer, Agencies may determine that it is optimal to reduce the water utility rebate amount and shift funding to outreach that maximizes customer participation and increases conservation during the PG&E program period. Another reason to retain flexibility in Agency spending is the potential introduction of qualifying products that gain market share by having a lower price point that appeals to cost sensitive consumers (i.e., increased competition). In this event, a lower rebate amount and increased outreach that promotes product life cycle benefits may maximize participation. The flexibility to direct program resources to the optimal mix of rebate

amounts and promotional activities allow agencies to respond to market conditions and maximize total water and energy savings.

Budget Justification

The project budget is based on the well-documented experience of the 1996 through 2002 regional program. Furthermore, the regional approach results in lower project overhead costs that make this project more cost effective than individual efforts. The budget reflects the need for higher rebate amounts offered by DWR to close the price gap between conventional products and their high-efficiency counterparts.

The budget estimate was prepared by Brown and Caldwell, a professional water engineering firm with extensive experience in managing and conducting water conservation projects like this high-efficiency clothes washer rebate program. Brown and Caldwell is an approved consultant included in the California Urban Water Conservation Council's list of qualified consultants for the Year 2002.

F-3 ECONOMIC EFFICIENCY

This section lists the expected project outcomes and benefits of the proposed project.

Quantifiable Project Costs and Benefits

It is anticipated that the 58,410 rebates issued under this project will result in the following:

- total life water savings of approximately 15,378 acre-feet;
- total agencies' estimated benefit of $7,488,000;
- total wastewater estimated benefit of $4,583,000;
- total customer estimated benefit of $71,687,000 ($1,227.30 per customer benefit includes rebate, water, wastewater and energy savings).

The 58,410 rebates will also save 319,308,000 kWh in electricity. These quantified outcomes and benefits will benefit the Agencies and DWR by achieving greater water use efficiency and especially benefit CALFED by reducing the overall reliance on Bay-Delta water. These same outcomes and benefits will be realized by the customers by reducing the amount of energy and water used, thus in turn, reduce their water and energy bills. A detailed budget breakdown is provided in Table F-1 below.

Table F-1. Detailed Budget – Capital Outlay Project Proposal

Item	Justification	Labor		Other direct costs, dollars	Total, dollars	Agencies portion	Prop 13 portion
		Hours	Dollars				
Land Purchase /Easement	Not applicable						
Planning/Design/Engineering	Not applicable						
Materials/Installation	Not applicable						
Structures	Not applicable						
Equipment Purchases/Rentals	$150 with 50% cost share between DWR and Agencies funding			$8,761,500	$8,761,500	$4,380,750	$4,380,750
Environmental Mitigation/ Enhancement	Not applicable						
Construction/Administration/ Overhead	Varies per rebate for Agencies for 58,410 rebates (see Table F-2b)		$1,316,700		$1,316,700	$1,316,700	
Project/Legal/License Fees	Not applicable						
Contingency	Not applicable, provided by Agencies						
Other	Not applicable						
Project Total			**$1,316,700**	**$8,761,500**	**$10,078,200**	**$5,697,450**	**$4,380,750**

Assessment of Costs and Benefits

All assumptions for the quantified benefits and costs are expressed below in Table F-2a through Table F-2l in year 2002 dollars using a six percent discount rate. The benefit cost analysis follows in Table F-3 and is supported by additional analysis for each participating agency in Appendix A. A list of all major assumptions for the analysis of the quantifiable cost and benefits is as follows:

1. 19,570 rebates projected to be issued in FY2004; 19,470 rebates projected to be issued in FY2005; and 19,370 in FY 2006.
2. This project will reduce average water usage by 6,450 gallons per machine per year for 14 years useful life. This assumption is based on the background information provided in Appendix H.
3. Agency administrative and overhead costs on average will cost $23/rebate. This assumption is based on estimations provided by each Agency.
4. The weighted average value of conserved water for all Agencies is $604/AF.
5. The average value of wastewater savings for all Agencies service areas is $398/AF.
6. Energy savings to customer per washer is 390 kWh per year and total 5,460 kWh over the 14 year estimated useful life.
7. Customer avoided average energy costs per washer is $45.24 annually based on Pacific Gas & Electric residential rates as of October 1, 2002 at $0.116 per kWh.
8. Customer avoided average water/wastewater costs per washer is $31.71 per year based on water and wastewater commodity rates for participating agencies (see Table F-2b).

Table F-2a. Summary of Proposed Clothes Washer Grant Information

Agency	Proposed Annual Activity Level	Agency Match per Rebate	Agency Admin Cost per rebate	Total Cost of Rebate	Annual Displaced Water Supply (AF)*	Avoided Cost of Water (AF)	Avoided Cost of Wastewater Treatment (AF)
Alameda County Water District	800	$75	$20	$170	16	$600	$590
Bay Area Water Users Association	2,100	$75	$20	$170	42	$927	
City of Davis	970	$75	$20	$170	19	$394	$686
Contra Costa Water District	1,500	$75	$20	$170	30	$360	
East Bay Municipal Utility District	6,000	$75	$20	$170	119	$280	$102
Santa Clara Valley Water District	5,500	$75	$25	$175	109	$941	$500
Sonoma County Water Agency	2,000	$75	$28	$178	40	$398	$787
Zone 7 Water Agency	600	$75	$30	$180	12	$1,250	
Totals	19,470				385		
Values Weighted by Number of Rebates			**$23**			**$604**	**$312**

*Based on 6,450 gal/unit

Table F-2b. Agency Rebate Amounts

Agency	Agency Local Share				Total Rebate Cost	Total Rebate to Customer
	Rebate	Admin/OH	Total	DWR		
City of Davis	$75.00	$20.00	$95.00	$75.00	$170.00	$150.00
SCVWD	$75.00	$25.00	$100.00	$75.00	$175.00	$150.00
CCWD	$75.00	$20.00	$95.00	$75.00	$170.00	$150.00
Zone 7	$75.00	$30.00	$105.00	$75.00	$180.00	$150.00
EBMUD	$75.00	$20.00	$95.00	$75.00	$170.00	$150.00
ACWD	$75.00	$20.00	$95.00	$75.00	$170.00	$150.00
SCWA	$75.00	$28.00	$103.00	$75.00	$178.00	$150.00
BAWUA	$75.00	$20.00	$95.00	$75.00	$170.00	$150.00

Table F-2c. Agency Projected Number of Rebates*

Agency	Estimated Annual Number of Rebates			
	FY04	FY05	FY06	Project Total
City of Davis	970	970	970	2,910
SCVWD	5,500	5,500	5,500	16,500
CCWD	1,500	1,500	1,500	4,500
Zone 7	700	600	500	1,800
EBMUD	6,000	6,000	6,000	18,000
ACWD	800	800	800	2,400
SCWA	2,000	2,000	2,000	6,000
BAWUA	2,100	2,100	2,100	6,300
Total:	**19,570**	**19,470**	**19,370**	**58,410**

Note: The participating agencies will work together to achieve annual commitments and the overall total project rebates. The goal of 58,410 rebates in 3-years may require adjustments in the number of rebate given between agencies based on adapting to customer participation levels within their respective service areas.

Table F-2d. Projected Cost by Agency

Projected Costs			
Agency	Cost to Agency	Estimated Number of Rebates	Total Project Cost to Agencies
City of Davis	$95.00	2,910	$276,450
SCVWD	$100.00	16,500	$1,650,000
CCWD	$95.00	4,500	$427,500
Zone 7	$105.00	1,800	$189,000
EBMUD	$95.00	18,000	$1,710,000
ACWD	$95.00	2,400	$228,000
SCWA	$103.00	6,000	$618,000
BAWUA	$95.00	6,300	$598,500
Total:	**$783.00**	**58,410**	**$5,697,450**

Table F-2e. Total Project Cost by Funding Sources

Total Project Cost	DWR	Agency
$10,078,200	$4,380,750	$5,697,450
	43.5%	56.5%

Table F-2f. Total requested funds from DWR

Number of Rebates	Amount of Match Funds	Total
58,410	$75	**$4,380,750**

Table F-2g. Total Water Savings Estimate

Total Number of Rebates	Water Saved per Rebate (gal/yr)	Total Water Saved (ac-ft)
58,410	6,450	**15,378**

Note: All water and wastewater benefits have been calculated over a 14-year machine life. And net water savings are reduced by 5% due to potential losses in wastewater discharge systems, such as water recycling by wastewater treatment plants that serve the regional area.

Table F-2h. Total Water Agency Benefit

Projected Benefits - Water Agencies					
Agency	**Avoided Cost of Water ($/ac-ft)**	**Estimated Number of Rebates**	**Amount of Water Saved Per Rebate (gal/yr)**	**Project Total Water Saved (ac-ft)**	**Total Dollar Amount Saved**
City of Davis	$394	2,910	6,450	766	$301,864
SCVWD	$941	16,500	6,450	4,344	$4,087,855
CCWD	$360	4,500	6,450	1,185	$426,518
Zone 7	$1,250	1,800	6,450	474	$592,385
EBMUD	$280	18,000	6,450	4,739	$1,326,943
ACWD	$600	2,400	6,450	632	$379,127
SCWA	$398	6,000	6,450	1,580	$628,718
BAWUA	$927	6,300	6,450	1,659	$1,537,596
Totals:		**58,410**		**15,378**	**$9,281,006**
Weighted Average:	**$604**				

Note: 2002 Dollars. See Table F-3 for costs presented as net present value.

Table F-2i. Total Wastewater Agency Benefit (as First or Third Party as appropriate)

Projected Benefits - Water/Wastewater Agencies and Third Party Wastewater Agencies					
Agency	**Avoided Cost of Wastewater ($/ac-ft)**	**Estimated Number of Rebates**	**Amount of Water Saved Per Rebate (gal/yr)**	**Total Wastewater Saved (ac-ft)**	**Total Dollar Amount Saved**
City of Davis	$686	2,910	6,450	766	$525,580
SCVWD	$500	16,500	6,450	4,344	$2,172,080
CCWD	NA	4,500	6,450	1,185	$0
Zone 7	NA	1,800	6,450	474	$0
EBMUD	$102	18,000	6,450	4,739	$485,709
ACWD	$590	2,400	6,450	632	$372,808
SCWA	$787	6,000	6,450	1,580	$1,243,220
BAWUA	NA	6,300	6,450	1,659	$0
Total:		**58,410**		**15,378**	**$4,799,397**
Weighted Average:	**$398**				

Note: NA – Not available. Weighted average based on agencies reporting wastewater costs and their respective numbers of rebates only.

Table F-2j. Total Customer Water and Wastewater Saving Benefits

Projected Benefits – Consumer		
Number of rebates	**Cost of Water and Wastewater ($/yr)**	**Total Water Cost Saved**
58,410	$31.71	**$25,930,535**

Consumer water and wastewater costs based on average of City of Santa Rosa and EBMUD's current commodity water and wastewater rates as posted

http://www.ebmud.com/services/account_information/understanding_my_account/rates_&_charges/water_rates/default.htm

Table F-2k. Total Customer Costs

Projected Costs – Consumer		
Number of Rebates	**Average Unit Cost Differential of Machine***	**Project Total Efficient Machine Cost**
58,410	$350	**$20,443,500**

*Assume average additional cost per machine is $500 to purchase efficient model over conventional model less the $150 rebate amount

Table F-2l. Total Customer Energy Savings

Projected Benefits - Consumer		
Number of rebates	**Cost of Energy ($/yr)**	**Total Energy Cost Saved**
58,410	$45.24	**$36,994,558**

Cost of Energy based on savings estimates published in Table 4 of the Lawrence Berkeley National Laboratory 2001 Energy Star Program Status Report and PG&E's current residential rates as posted at
http://www.pge.com/customer_services/business/tariffs/pdf/E-1.pdf

A summary of the quantified costs and benefits to the Agencies, DWR, and customers are compiled benefit cost summary Table F-3 and benefit costs for each agency is provided in Appendix A.

TABLE F-3. Summary Economic Benefit Cost Analysis
(All Agencies Combined)

				Benefits ($)							Costs ($)						
Calendar Year	Rebates Offered	Annual Electrical Savings (kWh/yr)	Annual Water Savings* (AF/yr)	Amount of Rebate Received (Consumer)	Avoided cost of water (Consumer)	Avoided cost of power (Consumer)	Avoided cost of water (Agency)	Avoided cost of WW (WW Entity)	Total Undiscounted Benefits	Total Discounted Benefits	Differential Cost of Unit (Consumer)	Financial Incentives (DWR)	Financial Incentives (Agency)	Operating Expenses (Agency)	Total Undiscounted Costs	Total Discounted Costs	Net Present Value ($)
2003	19570	7,632,300	368	2,935,500	620,565	885,347	222,284	146,472	4,810,167	4,537,894	6,849,500	1,467,750	1,467,750	450,110	10,235,110	9,655,764	-5,117,871
2004	19470	15,225,600	734	2,920,500	1,237,958	1,766,170	443,432	292,195	6,660,255	5,927,603	6,814,500	1,460,250	1,460,250	447,810	10,182,810	9,062,665	-3,135,061
2005	19370	22,779,900	1098	2,905,500	1,852,181	2,642,468	663,444	437,170	8,500,764	7,137,405	6,779,500	1,452,750	1,452,750	445,510	10,130,510	8,505,772	-1,368,366
2006		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	4,431,973	0	0	0	0	0	0	4,431,973
2007		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	4,181,107	0	0	0	0	0	0	4,181,107
2008		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	3,944,440	0	0	0	0	0	0	3,944,440
2009		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	3,721,170	0	0	0	0	0	0	3,721,170
2010		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	3,510,538	0	0	0	0	0	0	3,510,538
2011		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	3,311,828	0	0	0	0	0	0	3,311,828
2012		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	3,124,366	0	0	0	0	0	0	3,124,366
2013		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	2,947,515	0	0	0	0	0	0	2,947,515
2014		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	2,780,675	0	0	0	0	0	0	2,780,675
2015		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	2,623,278	0	0	0	0	0	0	2,623,278
2016		22,779,900	1098	0	1,852,181	2,642,468	663,444	437,170	5,595,264	2,474,791	0	0	0	0	0	0	2,474,791
2017		15,147,600	730	0	1,231,616	1,757,122	441,160	290,698	3,720,597	1,552,475	0	0	0	0	0	0	1,552,475
2018		7,554,300	364	0	614,223	876,299	220,012	144,975	1,855,509	730,414	0	0	0	0	0	0	730,414
Totals:	58,410	318,918,600	15,378	8,761,500	25,930,535	36,994,558	9,288,218	6,120,382	87,095,193	56,937,471	20,443,500	4,380,750	4,380,750	1,343,430	30,548,430	27,224,200	29,713,271

Note: 2002 Dollars
*Net annual water savings are reduced by 5% due to potential discharge system losses such as water recycling by wastewater treatment plants that serve the regional area.

Value of conserved water based on current supply source ($/AF) =	604
Value of wastewater savings ($/AF) =	398
Discount rate (real) =	6.0%
Water savings (gpy/unit) =	6,450
Energy Savings (kWh/yr/unit) =	390
Consumer power cost savings ($/yr/rebate) =	45.24
Consumer water/wastewater cost savings ($/yr/rebate) =	31.71
Average consumer differential cost of unit less rebate amount ($) =	350
DWR Prop 13 cost of rebate ($) =	75
Amount of rebate offered by agency ($) =	75
Agency cost to administer rebate ($) =	23

Benefit cost ratio: 2.1

Analysis of Uncertainty

This section addresses the uncertainty analyses performed for this project. The sensitivities of the cost-effective analysis based on modifications to the principal variables in the benefit cost evaluation are presented in Table F-4 below.

Because the assumptions used for water savings, avoided cost, amount of incentive constitute a potential source of uncertainty in cost-effectiveness analysis, a sensitivity analysis was conducted to test results over a range of values. The sensitivities of the cost-effective analysis based on modifications to the principal variables in the benefit cost evaluation in comparison to the assumed values are presented in Table F-4 below. Column 1 of Table F-4 presents the assumed values for the project. Column 2 of Table F-4 presents an analysis of potential increases in future avoided water and wastewater costs to the agencies and potential future increases in energy and water rates to the consumer, representing a possible upper end analysis of the project.

The results of analysis indicate that the project is not sensitive to individual variables. Changing each benefit variable individually to the point of omission (a value of zero) or individually modifying a cost variable to an unreasonably high level did not affect the overall project to the point of an unfavorable cost-effectiveness (Table F-4, Column 3). However, when all benefit variables were decreased and all cost variables were increased by the same incremental amount, a break-even value could be achieved. As illustrated in Column 4 of Table F-4, the break-even value was determined to be a 40% decrease in benefits with a corresponding 40% increase in costs.

The economic analysis spread sheet for each of these analyses is provided in Appendix I of this application.

Table F-4. Results of Sensitivity Analysis

Variable[a]	Value	B/C ratio	Assumed		Break-even value at 40% of all variables[b]		Break-even value of individual variables[b]	
			Value	B/C ratio	Value	B/C ratio	Value	B/C ratio
Water savings per machine	7,500	2.1	6,450	2.1	3,870	1.0	0	1.7
Avoided cost of current water supply	664[c]	2.1	604	2.1	362	1.0	0	1.9
Avoided cost of wastewater treatment	438[c]	2.1	398	2.1	239	1.0	0	2.0
Customer value of annual energy savings	49.76[d]	2.2	45.24	2.1	27.14	1.0	0	1.2
Customer value of annual water savings	43.60[d]	2.3	31.71	2.1	19.03	1.0	0	1.5
Customer rebate amount	225	2.0	150	2.1	210	1.0	Entire purchase price of unit	1.0
Utility administrative cost	30	2.1	23	2.1	32	1.0	600	1.0

[a] All other assumptions except for variable remain constant.
[b] Break-even value is that variable value which causes the benefit to cost ratio to equal 1.0.
[c] Increased by 10% used to represent variability increase in future avoided water and wastewater costs (note avoided costs of the least-cost alternative of future water supplies was not used in the equitable assessment of benefit and costs)
[d] Increased by 10% used to represent potential future increases in energy and water rates.

APPENDIX A

BENEFIT COST SUMMARY TABLES (Participating Agencies)

APPENDIX B

SUMMARY REPORT – 2002 REGIONAL PROGRAM PARTICIPATION LEVELS

APPENDIX C

ADMINISTRATIVE SERVICE PROVIDER, EGIA, CONTRACTED SCOPE OF WORK

APPENDIX D

RESUMES – PROJECT MANAGERS

APPENDIX E

LETTERS OF COMMITMENT/SUPPORT

APPENDIX F

EBMUD – AUTHORIZING AGENCY RESOLUTION

APPENDIX G

EXAMPLES OF PROGRAM OUTREACH MATERIALS

- Program Application Form
- Point of Purchase Static Cling Sticker
- Sample Program Announcement
- Participating Retailer Program Information
- Retail Store Visit Procedure
- Customer Outreach Brochure

APPENDIX H

BACKGROUND INFORMATION ON DATA ASSUMPTIONS

- Summary of Water Saving Estimates calculated based on Water Factor
- US Department of Energy Life Cycle Cost Analysis, March 2000
- Energy Star Clothes Washer Models – Eligible Products Listing

APPENDIX I

ECONOMIC UNCERTAINITY ANALYSIS